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2004/G434

COMMENT ON DRAFT EIS / EIR
FOR PROPOSED CABRILLO DEEPWATER PORT

DATE: Dec. 18, 2004

TO: Commander Mark Prescott, U.S. Coast Guard
Lieutenant Ken Kusano, U.S. Coast Guard
Michael Ferris, Maritime Administration
Cy Oggins, California State Lands Commission
Cheryl Karpowicz, Ecology & Environment, Inc.

FROM: Kraig Hill, independent analyst
20544 Seaboard Rd.
Malibu, CA 90265
kraig@earthlink.net
310-456-8229

PROJECT: Cabrillo Port Liquefied Natural Gas Deepwater Port

APPLICANT: BHP Billiton LNG International, Inc.

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Supervisor Linda Parks, Ventura County
Malibu City Council
Susan Jordan, Statewide LNG Stakeholder Group
Linda Krop, Alicia Finigan, EDC, Santa Barbara

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PREFACE

Scope and organization of this Comment

This Comment is in response to the proposal of BHP Billiton LNG, Inc. to permanently moor a Floating LNG Storage and Regasification Unit (FSRU) in Federal Waters south of Ventura and Los Angeles Counties. It is generally limited to discussion of the *offshore* components of the DEIS/R. It is also limited by the what I perceive as an unacceptably short period for public comment – were there more time, this Comment would have been more comprehensive, and doubtless easier to read. In particular, I've had little time to signal any distinction between points that are terribly important and ones that might be less so – so I urge reviewers to please read closely.

For reviewers' navigational convenience, major section titles are accompanied by the corresponding page numbers in both the hard-copy draft and the PDF version of it (where applicable).

References to other sources are incorporated, most notably the "Deepwater Port License Application Comments" of reviewing agencies,[1] and my own "Draft Comment on Scope Of EIS/EIR for Proposed Cabrillo Deepwater Port."[2] A complete list of references is provided, as well as footnotes where appropriate. Unless indicated, page numbers in footnotes correspond to the DEIS/R. Emphases in quotations are added, unless otherwise indicated.

Author's background and initial assumptions

I have relevant background in many of the policy areas invoked by the proposed project, due in part to having emphasized an *interdisciplinary perspective* throughout my policy career. I studied the resources and environment of the Channel Islands in the Master of Marine Affairs program at the University of Washington, where I also earned a degree in law (and was Editor-in-Chief of *the Pacific Rim Law & Policy Journal*). As an undergraduate in the *Science in Society* program at Wesleyan University, I took courses with professors from Woods Hole Oceanographic Institute. I've visited the Northern Channel Islands several times, and have sailed directly through the FSRU location on as many other occasions.

I've worked in positions both "for" and "against" industry. On the private side, I've done software modeling for a hydrocarbon and minerals wildcatting firm, Waterford Resources, Inc., and statistical analysis of fisheries data for Natural Resources Consultants, Inc. – the same firm which BHPB has employed for the current project (my statistics background also includes co-writing the training manual for Systat statistical software.) Also, I often agreed with the views of my late grandfather, Mason L. Hill, who was Vice President of Oil Exploration for ARCO (he was also a renowned geologist, having proposed the theory of plate tectonics and developed the nomenclature of fault movements).

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[1] 9-21-04; "Comment Matrix."

[2] 52 pp., 3-30-04.

On the environmental side, I assisted the City of Malibu in its 1997 effort to establish a Malibu Marine Refuge, participating in the research and documentation phase, and contributing to the draft legislation sent to Sacramento (the final bill[3] was passed by both houses, before being vetoed by then-Governor Wilson). Since then, I've done policy research, writing and editing for non-profit organizations (e.g., Physicians for Social Responsibility) on a variety of environmental and telecommunications topics.

My base values are ecumenical with regard to the benefits of natural gas and the need to balance human and non-human interests in the environment. In that regard, I approached the BHPB project objectively; only after extended study did I come to doubt both the need for it and its overall viability. This Comment represents solely my own independent observation and analysis.

OBSERVATIONS OF GENERAL SCOPE

The DEIS/R is problematic in that many of its analyses are incomplete, misleading, or altogether missing. This section identifies patterns of omission and/or misstatement that appear throughout the DEIS/R. These examples are not meant to be exhaustive, but to set the context in which the Applicant's methods and overall credibility should be weighed by agency reviewers.

Factual distortions

In many cases, data and/or analysis has been *massaged* (to put it charitably) to produce misleading results. For instance, many if not all of the assessments assume that the FSRU would be operating at a capacity of 800 million cu.ft. of gas per day. However, its peak capacity would be 1.5 billion cu.ft. per day – an amount 1.88 times greater. Of course it wouldn't run at peak production all of the time; nonetheless the typical production rate appears to have been understated substantially. Thus, many of the impact assessments are also likely understated, to one degree or another. For instance, vessel traffic risks would increase substantially, with the additional tankers and tugs that would be required to maintain a higher rate of production (discussed below, at *Transits of BHPB tankers and support vessels*). Environmental impacts of discharges would therefore increase; as would noise, aesthetic, and other impacts. In turn, many of the impacts that are currently specified as "mitigated," might prove to unmitigable for this reason alone. G434-1

As another example of misrepresentation, overlaying a standard NOAA navigational chart[4] on BHPB's map of shipping lanes[5] reveals that the latter cheats, making the FSRU appear further from the shipping lanes that it would actually be.[6] (See my FIGURE 1.) As recently as September 2004, BHPB documentation stated that "the distance to the closest edge of the shipping lane is corrected to 2.4 miles, as verified by GIS coordinates."[7] However, the map overlay G434-2

[3] SB 1006, 1997.

[4] NOAA Chart: Pt. Dume to Purisima Pt., 26th Ed. 1987.

[5] Figure ES-3 (PDF page 50).

[6] I can provide separate copies of the two maps for verification that their proportions have not been altered.

[7] Comment Matrix, at 7.

G434-1
Section 1.0, "Introduction," has been updated to more clearly specify the throughput figures used in the environmental analysis. As stated, "Under normal operating conditions, the annual average throughput would be 800 million cubic feet per day; however, the Applicant has calculated that maximum operating scenarios would allow deliveries of up to 1.2 billion cubic feet per day, or the gas equivalent 1.5 billion cubic feet per day on an hourly basis for a maximum of six hours. These operating conditions would only be in effect if SoCalGas were to offer the Applicant the opportunity to provide additional gas in cases of supply interruption elsewhere in the SoCalGas system or extremely high power demand, for example, during hot summer days." In addition, applicable sections of the document have been updated similarly to clarify the throughput figures used in the analysis, including Sections 4.6, 4.7, 4.14, and 4.18.

G434-2
Both maps are accurate. The NOAA nautical chart uses a Mercator projection, and the regional map in the October 2004 Draft EIS/EIR (Figures ES-3 and 3.3-1) uses a Lambert conformal conical projection. On a Mercator map, longitudinal lines converge at the poles; the farther from the equator, the closer together the lines of longitude. It is not possible to successfully overlay a conical projection map on a Mercator chart without distorting shapes and distances.

Figures ES-3 and 3.3-1 are based on a map of the State of California at a scale of 1:1,000,000, a scale that permits the display of the large geographic area that has features of interest to the public. The shipping lanes were transferred from a nautical chart (scale 1:232,188, or more that four times the scale of the regional map) on a different projection. The shipping lanes are shown in more detail on other maps in the document (see Section 4.3). Both figures state, "Map depicts approximate locations based on best available data" and note that certain features are not to scale.

shows that distance to be approximately 2.0 NM;[8] and calculation using distances given in the DEIS/R confirms that the distance is 2.0 NM.[9]

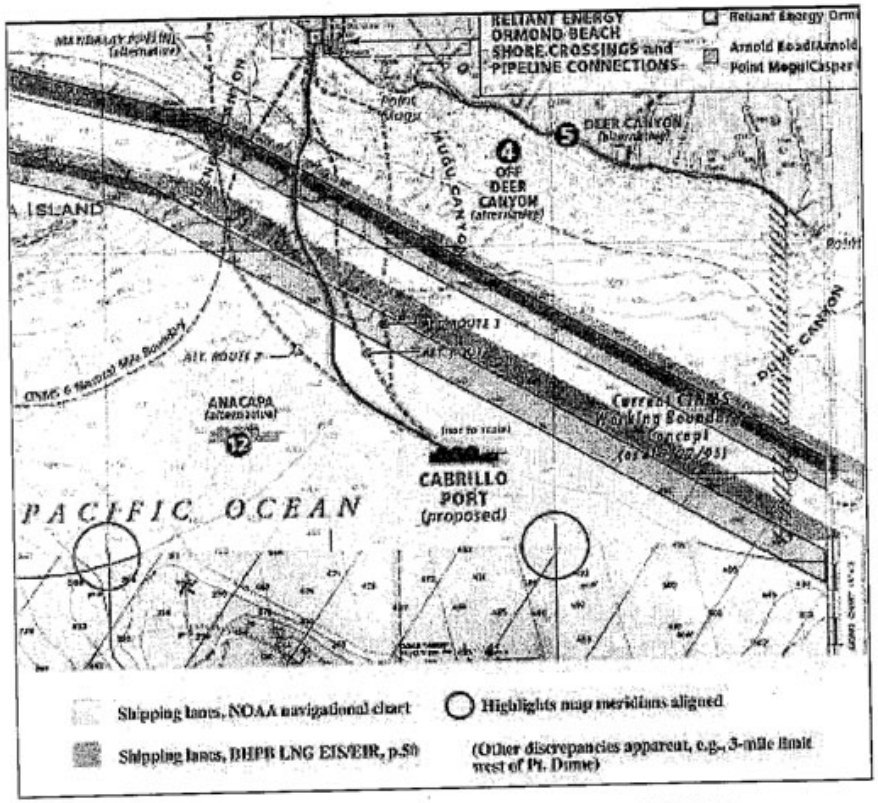

Figure 1. Overlay of NOAA chart and BHPB map, showing "cheated" shipping lanes Meridian lines of both maps are circled in green to demonstrate the accuracy of the overlay. (The page number in the legend refers to the PDF version of the DEIS/R.)

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8 BHPB's map does indicate that the FSRU itself is not drawn to scale; however, the 2.1 NM distance is applicable to either the endpoint of the pipeline route or the centerpoint of the FSRU as drawn.

9 At 2-2 the DEIS/R states, "2.5 NM (2.9 miles or 4.7 km) from the centerline of the nearest shipping lane." Lanes are 1 NM wide, therefore the FSRU is 2.0 NM from the edge of the lane.

Slight discrepancies are also observable in the map overlay, *e.g.*, in BHPB's depictions of the CINMS boundary and the 3-mile State jurisdiction limit SW of Pt. Dume.

Also, the Applicant has narrowed the width of the safety zone between northbound and south-bound lanes, thereby creating the subjective visual impression that the margin of safety required for tanker-sized vessels is smaller than it actually is.

G434-3

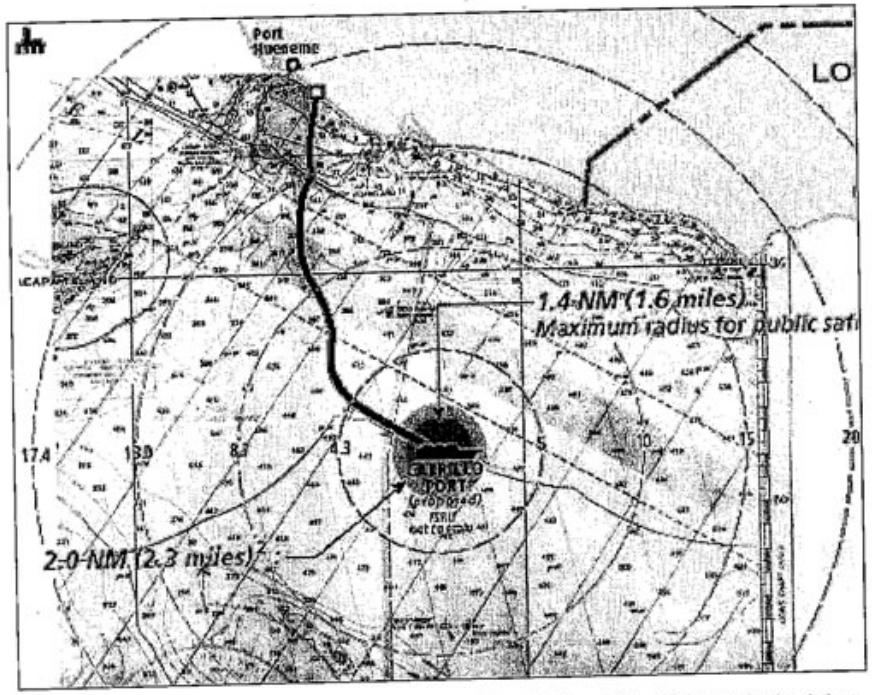

Figure 2. Navigational Conflicts. BHPB's Distance Map (Figure 2.2-1) overlaid on NOAA navigational chart. Precise measurement shows the FSRU to be 2.0 NM from the missile range (not 2.4 NM, as BHPB states), and 2 NM from the boundary of the shipping lane. Commercial and recreational vessels approaching from SE would be routed directly into either the southbound shipping lane or the missile range. Just below the lower margin of the map, the Navy's Pacific Sea Range extends eastward all the way to Catalina Island, meaning that fighter planes flying between Pt. Mugu and SE areas of the Sea Range would fly directly over the FSRU.

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G434-3
The Applicant did not develop the October 2004 Draft EIS/EIR and did not supply the graphical representation in Figure 2.2-1. See the response to Comment G434-2 for a discussion of maps with different projections.

Sections 2.2.4 and 4.3.1.4 discuss the characteristics of the safety zone.

Similarly, the FSRU is stated as being 2.4 NM from the boundary of the Pt. Mugu Sea Range (Pacific Missile Range). But close measurement shows it to be 2.0 NM from the boundary. This is fairly evident in my FIGURE 2, in which BHPB's Distance Map (Figure 2.2-1) is overlaid on the same NOAA navigational chart.[10] Here, the orange 2.0 NM precautionary zone directly abuts both the shipping lane and the missile range boundary. This presents significant unaddressed impacts in terms of "vessel traffic disruption" (discussed below at *Exclusion Zone and Precautionary Zone*). G434-4

Many other *apparently* minor mistakes are made in the DEIS/R. For instance, it states that "the LNG carriers would have a capacity ranging from 2.6 million to 5.8 million gallons."[11] That's off by a full order of magnitude; capacity would be from 26 million to 58 million gallons. The word "apparently" is emphasized because such errors might not be minor: A) they could lead readers to substantially inaccurate impressions; and B) we don't know at what point in the design or documentation process such errors might have crept in, so we can't be sure whether related assessments were performed accurately or not. G434-5

Unfinished project design

The design of many significant elements of the Project has not yet been completed (as will be seen throughout this comment). To take one example, the Applicant states, "[W]e have commissioned Fugro-Geos to undertake a comprehensive study and modeling of the area to provide these detailed metocean conditions *for final design*."[12] How should the public be expected to interpret statements like that? Not only is it an implicit admission that the application is incomplete, it also prevents analysts (internal and public) from making definitive impact assessments.

Another example: the potential need for pipeline spans of small submarine canyons and related seabed features is not addressed in the technical Documentation. The Applicant states, G434-6

> "Through proper routing and installation, tension management spans can be avoided. A Span Remediation Outline will be prepared during Detail Design as a contingency in the unexpected event of unacceptable spans."[13]

But how will spans be addressed if they become necessary during pipeline installation? What happens if they're found to be "unacceptable" only at that point?

A few other key Project elements whose designs have not been finalized include:

- The FSRU hull (discussed below, at *FSRU design uncertainties*);
- The flexible risers;[14]

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[10] NOAA Chart, supra, note 1.
[11] 2-13.
[12] Matrix, at 14.
[13] Matrix, at 22.
[14] See 2-18. "The flexible risers *would be* designed to withstand..."

G434-4
Table 2.1-2 contains information on the distances from the FSRU to specific locations. Section 4.3.1.1 describes the distance from the FSRU to the shipping lanes. Sections 2.2.4 and 4.3.1.4. discuss the characteristics of the safety zone and area to be avoided.

See the response to Comment G434-2, which explains that it is not possible to accurately overlay maps in two different projections.

G434-5
Section 2.2.2.3 contains additional information on this topic.

G434-6
Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. The Cabrillo Port must be designed in accordance with applicable standards, and the U.S. Coast Guard has final approval. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port Act specifies performance levels that all deepwater ports must meet; Section 4.2.7.3 contains information on design and safety standards for the deepwater port. Section 4.2.8.2 contains information on pipeline safety and inspections. The EIS/EIR's analyses have been developed with consideration of these factors and regulations.

NEPA and the CEQA require that an EIS/EIR contain a detailed discussion of possible mitigation measures; however, NEPA does not require a complete mitigation plan be completed at the time of the EIS. In Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 109 S.Ct 1835 (1989), the court determined that..."[T]here is a fundamental distinction, however, between a requirement that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete mitigation plan be actually formulated and adopted, on the other."

Under the CEQA, mitigation measures "may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specific way" (CEQA Guidelines section 15126.4(b)).

- The 500 m Exclusion Zone and 2 NM Precautionary Zone are not finalized ("The USCG would determine the size of the area to be avoided if the DWP license is approved");[15]
- Only one of four proposed tanker approach routes to the FSRU has been determined ("The USCG would approve or deny any proposed routes that may be requested for inclusion");[16]
- Approval for proposed seabed cable crossings has not been obtained.[17]

G434-6 cont'd

Moreover, in just the category of "environmental impacts and mitigation measures" alone, the DEIS/R admits that the following design plans have not been undertaken:

> "a Spill Prevention, Control, and Countermeasures (SPCC) Plan; an HDD Contingency Plan; a Construction Fugitive Dust Plan; a Stormwater Pollution Prevention Plan (SWPPP); an Erosion Control Plan; a Weed Management Plan; and a Biological Resources Mitigation and Monitoring Plan."[18]

None of these plans are so insignificant that they can necessarily be undertaken after the fact; the entire viability of the project could depend on the outcome of one or more of them, so they should have been performed prior to the final DEIS/R stage. Without them, there is no way to fully assess many of the potential risks of the project.

Critical assessments not yet performed

Throughout, the DEIS/R contains admissions that assessments remain incomplete. For instance, "After licensing, *additional aspects* of DWP safety, including transportation routes near oil and gas production facilities, will be addressed…"[19] Or again, "All aspects of consistency with California Coastal Commission's Coastal Management Plan are declared "to be determined." (Many other examples of incomplete assessments are integrated throughout this Comment.)

G434-7

Whereas the DEIS/R makes a *pro forma* attempt to identify "known unknowns," it entirely ignores the possibility of "unknown unknowns" – including unanticipated risks in safety, environmental impact, economic factors, etc. With so many complex, interdependent sub-systems, unforeseen operational snafus would definitely occur. Contingencies during installation could require redesign of components. During operation, additional contingencies would doubtless arise, necessitating adjustments, repairs, or even redesign. There will doubtless be substantial cost overruns. The Report's reluctance to even contemplate such "real world" factors is cause for concern.

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15 2-24.
16 2-24.
17 2-39.
18 ES-6.
19 1-10.

G434-7
As stated in Section 4.11.1, "[n]either Federal (the USCG and the U.S. Maritime Administration [MARAD]) nor State (CSLC) lead agencies require deepwater port applicants to provide final detailed designs as part of their application. If an application is approved and MARAD issues a deepwater port license or a license with conditions, the deepwater port licensee is required to submit all plans of the offshore components comprising the deepwater port to the USCG for approval. If the CSLC approves the lease application, the conditions of the lease would include specific requirements for submittal of detailed design criteria and final detailed engineering designs by the Applicant for review and approval by State agencies. Additional studies may be required for final design and would require Federal and State approval before construction of the deepwater port can begin."

Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. The Cabrillo Port must be designed in accordance with applicable standards, and the U.S. Coast Guard has final approval. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port Act specifies regulations that all deepwater ports must meet; Section 4.2.7.3 contains information on design and safety standards for the deepwater port.

Credibility of Project documentation

G434-7 cont'd

Both the DEIS/R and Project documentation contain enough misleading irregularities that the credibility of the Project itself is rendered questionable.

G434-8

For instance, projects such as Crystal Energy or Sound Energy Solutions should have been discussed in the Alternatives section, as well as in the Cumulative Impacts section. Alternatives and Cumulatives are two different sets of issues, so should have had two separate discussions. The result is that the reader is left with the false impression that the BHPB project is the only known alternative that could satisfy the (purported) project need. It is not (as discussed below in *Project purpose, need and objectives*).

G434-9

As another example, BHPB's sole claim to credibility of the pipeline stability analysis is that it was done using "industry-accepted software" (AGA Level 2). But that's like claiming that a report is accurate because it was written using Microsoft Word. Not to mention, the AGA Level 2 software dates from 1988; many pipeline accidents have occurred since then, and presumably many lessons regarding stability have since been learned. (And the software was developed by Brown and Root, now infamous for favoring industry beyond the point of legality.) In short, what little we know about the pipeline stability software creates at least a reasonable doubt as to whether it's state-of-the-art.

G434-10

Other aspects of the documentation are suggestively misleading to all but the most diligent reader. For instance, how is it that seismic hazards are discussed as "geological resources?" In the DEIS/R Table of Contents, one sees *nothing* about seismic risks, earthquakes or faults.

G434-10.1

And, BHPB's distorted map of shipping lanes (my FIGURE 1, above) appears in the Executive Summary of the DEIS/R, meaning that the many people who read *only* the summary will be left with an inaccurate visual impression of how close the FSRU would be to the shipping lanes. Given that I (and others) raised concerns about map distortions during the scoping phase, and BHPB (and Ecology and Environment, Inc.) have nonetheless continued producing *new* map distortions, a plausible inference is that they *might be* cheating other data. If something so comparatively obvious as a map distance has been either fudged or fumbled, how many more-technical, less-obvious details in the proposal may have been mishandled? Even if the cause of the map discrepancies was just a lack of attention to detail, well, what then should the public expect of the project implementation itself? In one regard, a slip-up of a few tenths of a mile might be considered trivial. But this project has all the complexity, all the novelty, and much of the potential harm of a Three-Mile Island or a Chernobyl. Certainly its documentation should be held to the highest standards of credibility, accuracy and completeness.

G434-11

BHPB has repeatedly made the point that it has employed only the world's best expertise throughout it's operation, and will continue to do so. But so far, the people of California's greatest experience of this "expertise" has been through the documents and presentations prepared by Ecology & Environment, Inc. The signs are less than encouraging: the documents have been disorganized, with some being mistitled, others inconsistently split into multiple files (with some single-page documents inexplicably formatted as PDF files of many megabytes each, making web download problematic). And the DEIS/R provides no footnote (or endnote) citations to

G434-8
Sections 1.2.2, 1.2.3, 1.2.4, 1.2.5 (in Section 1.2 Project Purpose, Need, and Objectives), and 3.3 (Alternatives Eliminated From Further Analysis) contain revised text on this topic. Under NEPA and CEQA, a reasonable range of alternatives must be considered. What is necessary is information sufficient to permit a reasoned choice of alternatives with respect to their environmental impacts.

Additional information on the alternatives has been added in several sections. However, NEPA and CEQA do not dictate an amount of information to be provided, but rather, prescribes a level of treatment, which may in turn require varying amounts of information, to enable a reviewer and decision-makers to evaluate and compare alternatives.

Section 3.2 identifies the range of alternatives considered. As discussed in Sections 3.3.1 and 3.3.2, the achievement of the credible levels of energy conservation and use of renewable energy sources do not meet, as determined by the California Energy Commission, the projected energy needs of California. The projected energy gap is to be filled by seeking additional supplies of natural gas, including LNG. The project goal of fulfilling California's and the nation's short-term and mid-term natural gas supply needs or diversifying the supply of natural gas should be viewed in this context. Section 3.3.7 discusses the 18 potential locations for the deepwater port. It builds on previous California Coastal Commission studies that evaluated nearly 100 locations. In addition, Table 3.2-1 identifies six alternative technologies that are evaluated.

It should also be noted that the choice of the "No Action (No Project) Alternative" by decision-makers would maintain California's existing and projected energy supply mix, including conservation, renewable energy sources, etc. Clearly, decision-makers have discretion in this matter.

Both NEPA and the CEQA require the consideration of alternatives to a proposed project. 33 U.S.C. § 1502.14(a) states that the EIS should "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." Section 15126.6 of the State CEQA Guidelines states, "The Lead Agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives." This document conforms to these requirements and related court cases.

Sections 3.3.7.3 and 3.3.8.1 contain additional information on this topic. Further, the document's treatment of the cited projects is consistent with the requirements of section 15130 of the State CEQA Guidelines.

A comparable analysis for the Clearwater Port is not possible at this time because the environmental analysis of the proposed facility has not been initiated.

Section 4.20.1.3 contains information on the Sound Energy Solutions (SES) Port of Long Beach Onshore LNG Terminal and the Clearwater Port projects. Section 4.20.3 analyzes the potential cumulative impacts of these projects on the environment.

The Long Beach Board of Harbor Commissioners voted on January 22, 2007, to end the environmental review of a proposal by SES and issued the following statement: "After deliberation, based upon an opinion from Long Beach City Attorney Robert Shannon, who concluded that the Environmental Impact Report on the proposed LNG project 'is and in all likelihood will remain legally inadequate,' and since an agreement between Sound Energy Solutions and the City does not appear to be forthcoming, the Board of Harbor Commissioners disapproves the project and declines to pursue further negotiations" (Port of Long Beach 2007).

In addition, Congress has passed statutes that distribute responsibility for the development of LNG facilities in the United States across different agencies within the Federal government. For offshore LNG facilities, the USCG and MARAD jointly share responsibility for evaluating and processing applications submitted under the DWPA. For onshore facilities, that responsibility lies with the FERC under the Natural Gas Act. Nonetheless, in evaluating reasonable alternatives under NEPA for bringing LNG to the California market, both offshore and onshore LNG facilities must be considered. Finally, this EIS/EIR does not address how many LNG facilities may be needed to meet the growing demand in California because that decision will ultimately be based on market conditions.

G434-9
Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. The Cabrillo Port must be designed in accordance with applicable standards, and the U.S. Coast Guard has final approval. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port

Act specifies performance levels that all deepwater ports must meet; Section 4.2.7.3 contains information on design and safety standards for the deepwater port. Section 4.2.8.2 contains the regulatory requirements for offshore and onshore pipeline safety,inspections, and enforcement. The EIS/EIR's analyses have been developed with consideration of these factors and regulations.

G434-10
To help clarify the content, the term "and Hazards" has been added to the title of Section 4.11, "Geologic Resources and Hazards."

G434-10.1
See the response to Comment G434-2.

G434-11
The EIS/EIR has been prepared under the direction of MARAD, USCG, and CSLC.

The text throughout the document, including citations to references, has been revised.

referenced literature, so it is virtually impossible to double-check the accuracy or veracity of any and all assertions made. The work is simply not of professional quality.

Perhaps part of the reason could be that, of E&E's ~30 staff employees who have worked on the DEIS/R, 13 have no education higher than a Bachelor's Degree.[20] Only one has a Ph.D. – in English. Of E&E's outside consultants, only six have Ph.D's, and those are limited to only the areas of engineering and oceanography. So perhaps the shortcomings of the DEIS/R are to be expected. Personally, I find it sobering that I myself have more academic and work experience in related fields than half of the project participants. I mean, I would expect that a project of this complexity, novelty and potential risk would be being performed by nothing less than NASA-caliber talent.

G434-11 cont'd

In addition, there is a real question as to whether the document reflects *independent* judgment and analysis, as required under CEQA Guidelines.[21] While E&E will be paid approximately $1.5 million for its work on the BHPB Project, it currently has contracts with the Federal government for work in the Middle East totaling approx. $25 million,[22] and doubtless other Federal contracts. Because the Federal government (i.e., the White House administration) is so strongly promoting LNG importation, the argument would be that E&E has a significant, direct financial interest in producing reports favorably aligned with the Administration's political positions, lest its contracts not be renewed. This question of E&E's independence deserves further investigation.

G434-12

The overall message here for project reviewers is not simply to "trust but verify" the documentation (to borrow President Reagan's phrase), it is rather: "don't trust any of it." When in doubt, assume the worst-case interpretation until proven otherwise. Examine the proposal not only for what it says, but for what it doesn't say. A great deal of the public interest is resting on your comparatively few shoulders. We're counting on you to critically examine the entire iceberg of which we commentors have had barely enough time to scratch the tip.

20 From Table 7.1-1.

21 §15090(a).

22 See for example, *Ecology and Environment, Inc. Reports Record Revenues for Fiscal Year 2003*, E&E Investor News, http://www.ene.com/news.asp?news_ID=78.

G434-12
Ecology and Environment, Inc., does not currently, nor has it ever, had contracts with the Federal government in the Middle East.

PROJECT PURPOSE, NEED AND OBJECTIVES

1.6; PDF 114

Project need is not demonstrated

The DEIS/R scarcely even begins to make the case for the Project's necessity. While it strings together an impressive amount of evidence pertaining to various matters such as supply and demand and the like, it does not marshal that evidence into any particular argument. In essence, it says, "Here's a bunch of things we know about LNG and California and stuff like that – now let us go ahead with Project." Not incidentally, section 1.2.1 of the DEIS/R, entitled "Purpose of the Project; Federal and State Responsibilities," says literally nothing about the Project's purpose. Indeed, it appears that any conceivable purpose is likely either not necessary or not achievable, as discussed in the following sections.

The Applicant all but admits that it has not truly identified the Project need. In the socioeconomic section of the DEIS/R, it states: "[The Application] does not discuss international economic implications, natural gas pricing, or supply chain issues related to the Project, since they are beyond the scope of a NEPA/CEQA impact analysis."[23] But all of these factors are crucial in the basic determination of Project need. They should have been addressed. It's little wonder that the analysis of Project need appears to have been done in a figurative vacuum.

The Applicant's most explicit case for the Project need is encapsulated in a single paragraph – which, curiously, appears within the brief section purporting to dismiss the "No-Action Alternative":

> "Under the no-action alternative, the demand for natural gas in Southern California would not be satisfied by the Project and would have to be met by other options. If projected natural gas demand is unmet, prices could rise. This could result in installation of more pipelines or proposals for other offshore or onshore LNG facilities. If natural gas supplies continue to be constrained, then industrial power suppliers may be forced to rely on less expensive, but higher polluting energy sources such as coal, nuclear, or oil."[24]

G434-13

That argument is entirely hypothetical. In stark contrast, the potential risks of the project are real, many of which would remain unmitigated, as even the Applicant admits.

No "purpose" under DWPA or CEQA

The Project does not meet *at least* three out of the eight findings that the Secretary of Transportation is required to make under the DWPA.[25]

G434-14

[23] 4.16-1.
[24] 3-29.
[25] Cited at 1-6.

G434-13
Sections 1.2.2 and 1.2.3 discuss the U.S. and California's need for natural gas.

The EIS/EIR does not discuss "international economic implications, natural gas pricing, or supply chain issues related to the scope of the Project, since they are highly speculative and infinite variations could occur" as stated in Section 4.16.1.

G434-14
Section 1.1.1 contains revised text. The numbered items cited in Section 1.1.1 are not findings, but are MARAD's responsibilities for issuing deepwater port licenses. If the Administrator, MARAD, does not believe that the Project meets the objectives of the DWPA, then a license will not be issued.

G434-15
Section 1.2.3 contains revised text on this topic.

Unmet Project criteria include:

- Protect the environment;
- Are not sited in areas specially designated as *vessel navigation routes…* or *environmental protection and conservation areas*;
- Do not place human safety, property, or resources at unacceptable risk of injury or loss.

G434-14 cont'd

As detailed in latter sections, the Project would have potentially unmitigable significant impacts on "environmental protection and conservation areas," including substantial portions of coastline between Pt. Dume and Pt. Mugu which carry the State designation of "environmentally sensitive habitat," as it would also quite possibly have on CINMS. And, "human safety, property, or resources" (the third criteria above) have been placed at "unacceptable risk of injury or loss," through incomplete and/or inaccurate assessment of the LNG blast hazard, unaddressed risks to maritime safety, unmitigated risks associated with drifting vessels, and the unexamined potential for multiple or compound systemic failures. Because the criteria have not been met, the project does not meet the threshold requirements of the DWPA.

G434-14.1

BHPB points out that, according to CEQA Guidelines, the CSLC *may* issue a statement of overriding considerations and approve the Project if "the specific economic, legal, social, technological, or other benefits…outweigh the adverse environmental impacts."[26] However, BHPB does not mention the next section of the Guidelines, which requires that "[t]he statement of overriding considerations shall be supported by *substantial evidence* in the record."[27] As this comment (and doubtless those of others) demonstrates, the DEIS/R fails to provide substantial evidence of any certain benefit to the people of California, whereas it does leave unaddressed a substantial number of significant unmitigated (and unmitigable) risks.

Mischaracterization of California's demand

The Applicant's characterization of California's projected demand for LNG misstates and misappropriates the CEC's study showing that demand is likely to rise only one percent by 2013. The DEIS/R is incorrect in stating that the CEC estimate of 1% annual growth "even [takes] into account increased conservation and the use of renewable energy."[28] It does not. The CEC characterizes its own projections as follows:

> "The natural gas demand projections for power generation used in the model assume an *average amount* of demand side management (DSM)… Natural gas and electricity demand projections *in the basecase* reflect the assumption that *current levels of funding* for utility energy efficiency programs will continue."[29]

G434-15

26 CEQA Guidelines §15093(a), cited in Report, at 1-12.

27 CEQA Guidelines §15093(b).

28 ES-2.

29 California Energy Commission, Preliminary Natural Gas Market Assessment, May 27, 2003 100-03-006SR. http://dmses.dot.gov/docimages/pdf88/266013_web.pdf ("CEC Market"), at 50.

In other words, the CEC's projection of a 1% annual increase in demand (the "basecase") is based on *no change* in DSM efforts such as conservation, increased use of renewable supplies or alternative energy sources. (Similarly, I suspect that the national EIA demand projections cited in the DEIS/R[30] do not account for any increase in, or increased effectiveness of, DSM strategies; if they did, surely the Applicant would have made a point of it.) Throughout the DEIS/R, the applicant repeats the false mantra that the CEC projection of 1% annual growth in demand assumes "the *growing* use of renewable sources,"[31] as though saying it enough times might make it true.

Moreover, according to the CEC, if state funding for DSM programs in California were doubled to $233 million, demand would be reduced by 9.6%[32] – approximately the same amount that would be satisfied by the BHPB project. Further, additional demand reduction could be achieved beyond that which would be achieved by *state-funded* DSM programs, through, for instance, educational campaigns (on use of renewable and alternative sources) conducted by non-profit organizations and community groups. In other words, the total likely additional demand reduction in the State would be significantly higher than the amount of demand (~10%) that the BHPB project could satisfy.

G434-15 cont'd

The DEIS/R is also incorrect in finding that measures to improve energy conservation are necessarily only long-term, and therefore "would not be responsive to the short-term and mid-term [energy] needs that are intended to be addressed by…the proposed Project."[33] If anything, the opposite would be true: viable conservation and renewable energy measures could be implemented and begin making a difference *today*; whereas the Project would not even be operational until 2007 at the very earliest, and would likely not be running at optimal capacity until a few years after operations actually began.

G434-16

Mischaracterization of supply problems

BHPB is disingenuous in at least three regards when it concludes that the CEC "has recommended that California secure and diversify its sources of natural gas in order to ensure a sufficient and reliable supply of natural gas."[34] First, that statement is uncited; but the CEC Report[35] on which BHPB otherwise relies heavily calls for greater diversity of energy sources in general, not just natural gas. The goal of diversity necessarily implies that alternative and renewable sources be further developed.

Second, that same CEC Report has been roundly criticized for ignoring many key factors in its assessment of LNG imports. Even the Report itself admits that it

> "does not discuss the front end of the LNG supply chain (i.e., the exploration, production and liquefaction of gas from distant and isolated locations), LNG

30 1-6.
31 Another example of this falsehood is found on p. 3-6. Emphasis in the original.
32 CEC Market, at 63.
33 3-5.
34 Es-2.
35 CEC, "Integrated Energy Policy Report," Sacramento, CA: Oct. 2003 www.energy.ca.gov/energypolicy. ("Energy Report").

G434-16
As discussed in Section 1.2.3. "The California Legislature recognizes that the CEC is the State's principal energy policy and planning organization and that the CEC is responsible for determining the energy needs of the California." Therefore, the CEC's projections of natural gas need in California have been used in the EIS/EIR. Sections 3.3.1 and 3.3.2 contain updated text, regarding energy conservation and renewable energy sources, respectively.

Whether or not the public takes advantage of low cost energy and its commercial availability is uncertain. It is for the same reasons, the expected legislation from the Governor's office is also considered uncertain. Section 15145 of the State CEQA Guidelines states, "If, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact."

> economics, or the features and permitting of small LNG facilities for vehicle fueling or peak-shaving purposes…(and in addition) the regulation of LNG facility operations, gas pipeline construction and operation, gas quality, or gas prices…"[36]

G434-16 cont'd

In this light, any "recommendation" the CEC has made for LNG importation is necessarily under-informed and premature.

Third, BHPB offers that (uncited) CEC recommendation as evidence that imported LNG satisfies the need for *security* and *reliability* of supply. But in calling for these positive attributes, the CEC is not necessarily saying that imported LNG is the first or best alternative; for if security and reliability are primary concerns, then the first choice should not be LNG imported from uncertain international sources (e.g., Korea or Indonesia, as BHPB has stated) into facilities that are high on the list of terrorism targets (according to the Dept. of Homeland Security).

In short, to the limited extent that the CEC recommends LNG imports, that recommendation cannot be complete or definitive; and the fact that BHPB has relied on it so heavily simply confirms that the Project need is unfounded. In any case, the CEC also states that "Between 2003 and 2013, supplies of natural gas [in California] will be sufficient."[37]

To the extent that there has been or could be a supply problem, the CEC associates it with increasing gas demand in the Southwest.[38] The CEC points out a number of potential solutions which *do not* involve importation of LNG. It states that the "potential bottleneck [of demand in Arizona and New Mexico] *can be alleviated by expanding the interstate infrastructure serving the East-of-California markets.*"[39]

And that potential infrastructure problem is already being addressed:

> "Through 2013… Expansion of the Kern River pipeline from the Rocky Mountain, completed in May 2003, *provides the needed increase in pipeline capacity to serve the state*.... In addition, the Kern River Lateral and the El Paso Lateral, to be completed by July 2004, will interconnect a number of main pipelines and should provide *additional* flexibility."[40]

The DEIS/R acknowledges these latter developments,[41] but provides no direct counter-argument to them. Instead, it jumps to points out that 85% of California's natural gas supply is currently imported from out of state, and that this figure *might* rise to 88% by 2013. But that's beside the point. The solutions to the infrastructure issues are already being implemented, and are

G434-17

36 Energy Report, at 2.
37 CEC Market, at vii.
38 CEC Market, at vi.
39 CEC Market, at vi.
40 CEC Market, at viii, ix.
41 1-7.

G434-17
Sections 1.2.3 and 1.2.4 contain revised text on this topic.

Whether or not the public takes advantage of low cost energy and its commercial availability is uncertain. It is for the same reasons, the expected legislation from the Governor's office is also considered uncertain. Section 15145 of the State CEQA Guidelines states, "If, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact."

considered sufficient by the CEC to meet even increased in-state demand. A 3% rise in import share would be negligible.

G434-17 cont'd

Much bigger questions are raised by California's having an 85% import level: Why is the state so dependent on natural gas? What will it do to decrease its dependence? Whatever the answers are, importing more gas is, by definition, not one of them. But BHPB clearly has a vested interest in not considering such fundamental questions.

More gas is already on the way

As seen, the supply "bottleneck" problem is already being solved. But just in case, the CEC offers another solution: "In the long-term, LNG projects proposed for the East Coast…could potentially provide a needed supply source to enhance U.S. reliability if these projects are permitted."[42] In fact, over 50 applications for LNG import facilities are currently on file nationwide, including some for the West Coast. So *even if* one were to accept that LNG imports were necessary, the Applicant is wrong in assuming that the Project would represent the best or only way to meet that need.

It appears that any imaginable need for LNG imports is already being met. Since BHPB submitted its Application, and since the CEC Report was issued, five new LNG projects have been approved in the U.S.,[43] and at least two have been approved in Baja California and Canada. The DEIS/R makes no reference to these approvals. If it did acknowledge them, it would have to conclude that when the 7+ approved facilities are operational, the U.S. demand for imported LNG will likely be well-satisfied, even in the worst-case scenario.

The bottom line is that BHPB has built an artificial case for LNG demand by selectively picking its citations (not that it has properly cited its sources). In doing so, it seeks to portray itself as the sole and best solution to a crisis that remains hypothetical.

The Project would not necessarily provide reliable supply

BHPB claims that the Project would provide a *reliable* supply of natural gas for California. This is not at all certain. First, as the system is designed, tankers must consistently arrive at a rate of approximately three per week for the FSRU to remain operational at the nominal level of 800 million cu.ft. per day. This is because as the level of LNG in the Moss tanks is drawn down, the temperature inside the tanks warms towards ambient (exterior) levels; once the temperature rises above a certain (unspecified) point, the Moss tanks have to be put through a 30-hour cool-down process before any additional onloading of LNG can occur.[44] So if only one tanker shipment were delayed, gas production would have to be slowed or even halted to avoid drawing down the tanks. And tankers *would be* delayed – any number of causes such as storms, technical difficulties, etc. would militate against the tankers arriving on a perfectly timed schedule. The degree of this foreseeable supply fluctuation is not assessed; but it would appear that the supply would be less than "reliable."

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42 CEC Market, at viii.

43 [CITE.]

44 2-13,14.

Second, because the Australian offshore gas fields have not yet been developed, BHPB would likely have to import supplies from other Pacific Rim sources for a significant period of time,[45] perhaps years. Such sources would include countries like Indonesia, where political instabilities and/or technical bottlenecks could delay tanker shipments or postpone them indefinitely.

G434-17.1

The reliability of supply would be conditioned by whatever was the weakest link in the supply chain at any given time. With so many contingent variables in effect in advance of the LNG's arrival at the FSRU, it is foreseeable that production could be slowed or suspended during a significant portion of the Project's operational life.

Unaddressed costs

In addition to not clearly documenting any need for the Project, the DEIS/R doesn't consider a significant portion of the costs that would or could be associated with the project.

G434-18

Public costs – energy

The analysis of public cost-benefits is deficient. We don't know the taxpayer costs of support services, protection and enforcement, and the like. These should have been evaluated for a variety of reasons, including to be able to compare them with the CEC projection of the additional $131 million[46] it would cost to increase the State's DSM programs to achieve the stated 9.6% reduction in demand (which would obviate any need for the BHPB project). It could well be that it would be *less expensive* for the state to pursue additional DSM measures, even in the short-term.

G434-19

Nor does the DEIS/R address the potential case where demand for natural gas and/or LNG were reduced in the near or mid-term future, due to some concurrence of its increasing cost with decreasing costs of renewable supplies. Foreseeably, BHPB could find that the Project was no longer profitable – which could lead to taxpayer-supported bailout costs. From the State or Federal perspective, the long-term costs associated with the Project could well be greater than the costs of promoting and implementing alternative energy sources.

G434-20

BHPB and other LNG companies portray gas imports as a necessary mid-term solution to bridge the gap until renewable energy sources become more cost-effective in some far-off future. Yet that future is closer than they dare to admit. As Woodrow Clark, the State's recent Senior Policy Advisor for Energy Reliability points out, "Renewable energy costs are significantly lower today and coming down even faster (e.g., wind is now on a par, for example, with natural gas), and do not depend on fossil fuel exploration."[47] Clearly, BHPB has not demonstrated that California needs its 40-year *bridge to the future*.

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45 2-10.

46 CEC Market, at 63.

47 Clark, supra note XX, citing William Isherwood et al, *Remote Power Systems with Advanced Storage Technologies for Alaskan Villages*, University of Calif., Lawrence Livermore National Laboratory, UCRL-ID-129289, Jan. 1997, published in ENERGY POLICY, 2000.

G434-17.1
Section 2.2.1 discusses the proposed natural gas supply sources for Cabrillo Port. Section 4.6.2 contains the natural gas quality standards for distribution in California. Section 2.2.2.3 discusses what would occur if there was an interruption in the supply of LNG.

G434-18
The purpose of the EIS/EIR is to describe the environmental effects of the proposed Project. For example, section 15121(a) of State CEQA Guidelines states "An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

G434-19
See the response to Comment G434-17. In addition, as quoted in the EIS/EIR Section 1.2.5, "The proposed Project is an investment by BHPB, a private firm, without any funding by public sources."

G434-20
Section 1.2 addresses natural gas need.

The Project is funded by a private company; taxpayers would not be responsible for bailout costs. The Deepwater Port Act requires a demonstration of the Applicant's financial stability to own, operate, and decommission a DWP. In addition, the DWPA requires each applicant as part of the license approval, to furnish a bond or demonstrate other proof that if the project is "abandoned" then sufficient monies would be available to the federal government for either completion or demolition of the project.